CHAPTER 6: RESPONSE TO PUBLIC COMMENTS RECEIVED ON THE EA

This chapter contains issues raised by the public during the comment period for this EA and the agencies' response to each of the issues. Comments from the public are numbered and are written in bold text. The agencies' response follows each comment and is written in standard text.

1. Double-crested cormorants are having a devastating impact on fishery resources in Lake Erie. The numbers and catch rate of walleye, smallmouth bass and yellow perch are down. There are so many DCCOs, how can they possibly not be having an adverse impact on populations of yellow perch, smallmouth bass and walleye?

The agencies understand and appreciate the concerns people have regarding the impact of DCCOs on fishery resources and presented information on fish populations in Lake Erie and an evaluation of available data on DCCO impacts in the EA Sections 1.5.2 and 1.5.6.2. While there is no question that there are a lot of DCCOs on the Lake Erie islands and that these DCCOs eat a lot of fish, the type and volume of each species taken and the impact of that take on popular commercial and recreational species is not clear. Lake Erie is a large and complex ecosystem that has been heavily altered by human activities including the introduction of non-native fish species. Double-crested cormorants feed opportunistically on a variety of fish species, depending on location and prey availability (USFWS 2003). In the Great Lakes, fish species such as the alewife and gizzard shad appear to be the most important prey. Stickleback, sculpin, cyprinids, and yellow perch, and, at some localities, burbot, freshwater drum, and lake/northern chub are also important prey fish species for DCCOs (Wires et al. 2001). The impact of DCCO foraging on any particular fish species depends upon a number of local variables and great care should be taken when extrapolating findings from one location to another. Previous research on Lake Erie (Bur et al. 1999) indicates that walleye, yellow perch, and smallmouth bass were not common food items, but the study covered only one year. More recently, DCCO regurgitant data collected by the United States Geological Survey (USGS) suggests that consumption of walleye and yellow perch may be quite high, perhaps approaching 50% of the diet in some areas (Mike Bur, Sandusky Biological Station USGS, unpublished data). Although analysis in the EA indicate that DCCOs have the potential to adversely impact fishery resources in Lake Erie, the data is not definitive and action will not be taken specifically to protect fishery resources at this time. However, it should be noted that if current DCCO densities are having an adverse impact on fisheries, the reduction in the number of breeding DCCOs proposed in the preferred alternative for the protection of vegetation and co-nesting waterbirds may be sufficient to also have an incidental beneficial impact on fishery resources. The ODNR will closely monitor fish populations in areas where CDM may occur to see if CDM efforts are having an incidental beneficial impact on fish populations.

2. Double-crested cormorants are having an adverse impact on vegetation on Lake Erie islands. Loss of vegetation will adversely impact other species on islands. Loss of vegetation will greatly reduce aesthetic enjoyment of islands. West Sister Island

is starting to resemble the skeletons that some Canadian Islands have become. Commenters do not want to see what has happened/is happening on Middle Island and East Sister Island happen in Ohio. West Sister Island (WSI) is too important a rookery resource to lose.

We agree. Habitat loss for other co-nesting birds is the Service's main concern on WSI. Population goals for black-crowned night-herons, great egrets, great blue herons, and DCCO were set during the Comprehensive Conservation Plan (CCP) process for WSI (Section 1.7). Wires and Cuthbert (2001) identified WSI as the most important colonial waterbird colony site in the U.S. Great Lakes.

The agencies agree with concerns regarding the impact of high DCCO densities on vegetation and co-nesting waterbirds. These concerns are based, in part on data from and observations of DCCO impacts on other Lake Erie Islands which have had high DCCO densities for longer periods of time than the islands covered in this EA (Hebert et al. 2005). These issues are addressed in the EA in Sections 1.5.1 and 1.5.6.1 and are the basis for the management actions proposed in this EA.

3. There appears to be recent development of algae deposits near islands used by DCCOs instead of previous rocky bottom. Commenter attributes algae to contamination from DCCO feces.

Increases in the alga *Cladophora* have been documented throughout Lake Erie in recent years, including areas without DCCOs. Perhaps DCCO feces contribute to the algal blooms near DCCO colonies but there are others factors as well, so there may not be a major reduction in local algae growth even if DCCO abundance is reduced.

4. There is little scientific validation/no credible evidence for DCCO control to enhance/protect fishery resources.

While the EA presents examples of studies indicating that DCCOs can have an adverse impact on local fishery resources and a discussion of how DCCOs might have an adverse impact on fisheries near the Ohio Lake Erie islands, we agree that this data is not sufficiently definitive to warrant action to protect fishery resources in Ohio at this time. All management actions proposed in the EA are intended for the protection of vegetation and co-nesting waterbirds. The EA would have to be supplemented if lethal CDM other than very limited shooting to reinforce hazing were to be conducted for the protection of free-swimming fish populations.

5. EA repeatedly discusses increase in DCCOs from 1991-present. The EA fails to acknowledge that current increases in DCCO numbers may represent an increase from declines caused by a number of factors including environmental contaminants. It is not appropriate to use 1991 densities as "baseline".

Information on the history of DCCOs in Ohio has been added to Section 1.5.6. Information on the history of other colonial waterbird species has been added to the EA

in Section 1.5.6.1. Information on recent increases in DCCO numbers is used in the EA to demonstrate the rate at which the DCCO population has increased in Ohio and the capacity of local populations to increase if reduced to levels which have been seen in the recent past. Data from 1991 are not presented as a baseline management objective.

6. Double-crested cormorants have a longer history of breeding in Ohio than other waterbirds (great, snowy and cattle egrets) which may be at northern limit of their range. These species may just have been taking advantage of reduction in DCCO numbers to establish a breeding presence. Double-crested cormorants have a stronger claim to these sites than these other species.

The management plan established by the agencies is intended to preserve habitat for all colonial waterbird species. All 3 egrets and DCCOs are native to Ohio, and currently the very limited nesting habitat of the 3 egrets is threatened by DCCO impacts. Ohio's habitat is severely altered from what it may have looked like 100-200 years ago. The agencies based their management decisions primarily on the current situation and not what may or may not have occurred before the landscape was altered by Europeans. The preferred alternative was selected because it would be most effective in decreasing or eliminating the degradation of nesting habitat of 3 state-listed birds. The ODNR has the responsibility to conserve and improve wildlife resources, especially those whose presence in our state is in peril. Similarly, the CCP for WSI has only 1 habitat objective, maintain nesting habitat for approximately 1,000 pairs of great blue herons, 800 pairs of great egrets, 500 pairs of black-crowned night-herons, and 1,500 pairs of DCCOs. The CCP is the guiding management document for WSINWR, and was prepared in compliance with the NEPA, including completion of an EA and public review and comment.

The agencies are not advocating the elimination of DCCOs from the Lake Erie islands and, with the exception of Green Island, the management objectives include maintaining breeding populations of DCCOs at all sites where CDM is proposed. The WSINWR set a target for 1,500-2,000 nesting pairs in the EA based on the CCP habitat objectives, and on the DCCO population level at which habitat damage began to occur at a rapid pace. The WSINWR is advocating a proactive approach to reduce the DCCO population on WSI to levels at which habitat damage is minimized or reversed, in order to maintain nesting habitat for the other co-nesting waterbirds. A population of at least 1,500 nesting pairs of DCCOs will be maintained at WSINWR. Actual DCCO population levels at WSINWR may ultimately be maintained at a level higher than the 1,500 pair minimum depending upon the data obtained from monitoring the impacts of the proposed action on DCCOs, co-nesting birds and vegetation (i.e., the use of an adaptive management approach).

7. EA fails to accurately depict interactions between DCCOs and other species.

Interactions among DCCOs and other species are covered in EA Sections 1.5.1 and 1.5.6.1. For WSI, where the best data are available, shifts in distribution over time for great egrets and great blue herons have occurred as the DCCO population has increased.

The nesting area of great blue herons has been compressed into a smaller section of the island. Takeovers of great blue heron nests by DCCOs have been observed. The great egret population was more evenly distributed throughout the island before the recent increases in DCCO density, and has shifted to concentrate in areas without DCCOs or areas with low DCCO numbers. In the last year, DCCOs have begun to nest in areas occupied by black-crowned night-herons.

8. EA inaccurately states that West Sister Island and Sandusky host the only two Ohio nesting sites of black-crowned night-herons but that is not true as they have bred at other sites in recent decades and only last summer established Cincinnati's second colony (of eight nests) at an inland island at Spring Grove.

Thank you, the EA has been corrected accordingly. While this is great news, the existence of one or two small colonies does not detract from the importance of the Lake Erie islands as important nesting areas for night-herons. As the commenter alludes to, night-herons have nested in other areas, but all of these areas (except for Cincinnati) have been abandoned for at least 40 years. The night-heron colonies on the Lake Erie islands are still quite valuable since they are the only colonies which have consistently contributed to Ohio's small night-heron population for the past 10 years. The 2 small colonies have not existed long enough to determine if they will remain viable over the next 5-10 years.

9. Black-crowned night-heron numbers at WSI in 2005 are at the highest level in 10 years, so what's the problem? EA should acknowledge that fluctuation in black-crowned night-heron populations is normal. Double-crested cormorant management should be considered on WSI only when there is conclusive proof that DCCOs are impacting black-crowned night-heron habitat and then only be confined to areas of island occupied by black-crowned night-herons. Double-crested cormorant management for the protection of black-crowned night-herons could only be justified on the wilderness because of the status of the bird as a state threatened species.

We agree that black-crowned night-herons have shown some variations in population levels, especially at TPI. The black-crowned night-heron population on WSI experienced a steady decline from 1991 through 1999, from 1,113 pairs to 387 pairs. This decline has been mainly attributed to habitat succession on the island. However, since 1996, the black-crowned night-heron population at WSI has fluctuated between a high of 500 pairs (1996, 2005) and a low of 387 pairs (1999). The fluctuation within this period is within sampling error, so no clear population trend is indicated. The population may be stabilizing in line with currently available nesting habitat. Habitat management to produce suitable nesting cover for black-crowned night-herons is also having a stabilizing effect, as black-crowned night-herons are readily using the managed area. However, the DCCO population is rapidly expanding to areas near or occupied by black-crowned night-herons, leading the USFWS and ODNR to be concerned for the loss of additional nesting habitat for black-crowned night-herons. Double-crested cormorants also appear to be influencing a shift of the great egret population from a relatively uniform

distribution to a pattern of higher concentration in areas closer to the black-crowned night-herons and away from DCCOs. Because the night-herons have such a small breeding population in Ohio, the agencies would like to be proactive and stop the expansion of DCCO nesting on WSI before it directly impacts the night-herons.

As stated for Comment 6, the CCP sets refuge management goals for black-crowned night-herons, great egrets, great blue herons, and DCCOs. Since the CCP is the guiding document for the refuge, we have a responsibility to try and meet the goals set there to the best of our ability. WSI's role as the most important colonial waterbird colony site in the U.S. Great Lakes was established by Wires and Cuthbert (2001). Criteria used to establish this ranking were based the diversity of the species and their high population numbers. Their ranking score of 12 for WSI was the highest for any colony in the U.S. Great Lakes; the next highest score was 9, with the majority of islands having a score of 4-5.

10. There is no biological justification to undertake DCCO management at WSI to protect great blue herons and great egrets as they are not listed in the state or rare in the US. Great blue herons, great egrets and black-crowned night-herons have somewhat peripheral distributions in Great Lakes and great blue herons and great egrets are abundant in the Upper Mississippi Valley/Great Lakes Region. Great blue herons are not obligate nesters on the islands frequented by DCCOs. Great blue herons are larger and more aggressive than any other co-nester including DCCOs and are not in demonstrable trouble. There is no evidence of DCCOs having an adverse impact on great blue herons.

We agree that great blue herons have other nest sites than the islands. However the DCCOs do appear to be causing some problems for the great blue herons at WSI. The nesting area of great blue herons has been compressed into a smaller section of the island. This is particularly noticeable in the northeast quarter of the island. Takeovers of great blue heron nests by DCCOs have been observed. The great egret population at WSI was also more evenly distributed throughout the island before DCCO appeared, and at present has shifted to concentrate in areas without DCCO or areas with low DCCO numbers.

As stated for comments 6 and 9, the CCP sets refuge management goals for black-crowned night-herons, great egrets, great blue herons, and DCCO. Since the CCP is the guiding document for WSINWR, we have a responsibility to try and meet the goals set there to the best of our ability. WSI's role as the most important colonial waterbird colony site in the U.S. Great Lakes was established by Wires and Cuthbert (2001).

11. EA should consider using continuous human presence on islands (Green in particular) to deter DCCOs. Volunteers could be used to keep birds off islands in exchange for "island vacation" or daily hazing expeditions could be made from South Bass island.

Continuous human presence on the islands would impact the other nesting species (egrets and herons). It's highly likely that the egrets and night-herons choose to nest on the

islands because of the lack of human intrusion. Achieving a reduction in DCCO numbers through the exclusive use of hazing is likely to require more trips over a longer period of time than the proposed action. Hazing trips or continuous human presence would undoubtedly negatively impact other nesting species.

12. Destruction of scarce Carolinian vegetation is an important issue but only at Green Island. Destruction of vegetation at other sites does not justify lethal CDM methods.

Protection of vegetation is important when plant species or communities have ecological value, as in the case of Carolinian vegetation. On the Ohio Lake Erie islands, vegetation also provides habitat for other nesting waterbirds (herons and egrets).

13. In the few instances where DCCOs have taken some territory from other nesting colonial waterbirds over the past 15 years their numbers are tapering off on their own.

Data from WSI and the other Lake Erie islands shows that DCCOs have increased in numbers and in the area occupied by their nesting activities. To date, there is no evidence that the number of breeding DCCOs on WSI or Green Island is stabilizing although there is some evidence that this might be the case for TPI. Even if the breeding population of DCCOs at WSI were to stabilize at current levels, the current density of DCCOs is having unacceptable impacts on vegetation and the need for action would remain. The population at TPI may not continue to remain stable if CDM actions are conducted at Green and West Sister Islands because birds may move from these sites to TPI. Analysis of the possibility that management actions taken at one site could affect DCCO impacts at other sites that may not have CDM is addressed for WSI under Alternative 3 and similar impacts may be anticipated for TPI if CDM is conducted at WSI and Green Island, but no effort is made to maintain current numbers at TPI.

14. EA provides no data to prove that DCCO removal is successful in the US or Canada.

Double-crested cormorant removal to protect vegetation is a relatively new technique, limited data are available; therefore, the ODNR and WSINWR will monitor vegetation, co-nesting birds, and DCCO numbers on the islands to determine if DCCO removal is having the anticipated beneficial impact on co-nesting birds and vegetation. There are data indicating that CDM efforts can reduce the density of nesting DCCOs (http://llojibwe.com). Impacts of DCCO removal on woody vegetation, both positive and negative, will take time to manifest.

15. There are so many DCCOs present during migration they must be having adverse impacts on vegetation.

Impact of DCCOs on vegetation and co-nesting species is discussed in Comment 2 and in EA Sections 1.5.1 and 1.5.6.1. Concerns about impacts on pubic resources from high

densities of DCCOs during migration are the reason the proposed action includes the option to use hazing, reinforced with some lethal control, to decrease the period of time large congregations of migrating DCCOs remain in areas where impacts on public resources are a concern (Section 4.1.1). The fact that this type of activity could occur has been clarified in the description of the proposed alternative (Section 3.2.1)

16. Double-crested cormorants need to be eliminated from the Great Lakes area.

The DCCO is a native bird to Ohio and protected by the Migratory Bird Treaty Act. The birds are a valuable part of the ecosystem, and should not be eliminated. At high densities, they have a negative impact on vegetation, but such impacts should be reduced by the proposed CDM.

17. Double-crested cormorant damage around Canadian islands in other areas of the Great Lakes should be managed.

The scope of this EA is limited to Ohio. The need for DCCO damage management in areas outside of Ohio is outside the scope of this EA. However, the USFWS monitors DCCO populations and CDM activities in all states and works closely with Canadian natural resource officials to ensure that the cumulative impact of actions taken under the PRDO are not placing regional or national DCCO populations at risk (USFWS 2003).

18. Prompt action is needed to address DCCO damage problems. Something needs to be done immediately.

Activities proposed under the alternatives analyzed in this EA will start in April 2006.

19. Frustrated individuals may try and take matters into their own hands and remove the DCCOs themselves even if it is against the law.

On Little Galloo Island in Lake Ontario in 1998 and on Little Charity Island in Saginaw Bay in 2000, hundreds of adult and juvenile DCCOs were illegally killed by individuals frustrated over the perceived impact of DCCOs on local fisheries. Individuals taking action outside the law cause harm not only to DCCOs, but to other species that nest with them. In the case of Little Charity Island, this included herons, egrets, gulls, and terns. The agencies are aware that some individuals in Ohio are also extremely frustrated with the perceived impact of DCCOs on fisheries and the perceived failure of the agencies to address DCCO damage and that these individuals have considered illegal actions like those taken at Little Galloo and Little Charity Islands.

The U.S. Fish & Wildlife Service is the federal agency with primary management responsibility over all migratory birds in the United States, including DCCOs. Without a permit, killing of DCCOs, or any migratory bird or their eggs, is subject to penalties of the Federal Migratory Bird Treaty Act that include a $5,000 fine and/or six months imprisonment. It also protects nests and eggs. The 10 individuals found guilty of the incident at Little Galloo Island received sentences of up to two years' probation and six

months of in-home confinement, plus up to $2,500 each in fines. The judge also ordered the men to make a cumulative contribution of $27,500 to the National Fish and Wildlife Foundation.

20. Double-crested cormorant problems could be solved with a regulated hunting season for DCCOs.

Use of regulated hunting to address conflicts with DCCOs was analyzed in the FEIS (USFWS 2003) and was not selected as the management alternative. Therefore, use of regulated hunting is not an option legally available for CDM at this time. The FEIS acknowledged that regulated hunting would be an economical way to kill numerous DCCOs at minimal expense to the government. However, reasons provided in the FEIS for not selecting regulated hunting included: (1) concerns about monitoring and preventing adverse impacts on co-nesting and look-alike species; (2) the fact that birds taken during a hunting season might not be the ones causing problems, and (3) the agencies and numerous commenters had serious ethical reservations about permitting a non-traditional species to be hunted when it cannot be eaten or widely utilized.

21. Double-crested cormorants on Green Island will not adversely impact the Lake Erie watersnake. Snakes use low vegetation and leaf litter on hot summer days, but it is not critical habitat. No data exist to prove that DCCOs are predators on watersnakes or that watersnakes will avoid groups of DCCOs. Young and even mature snakes are eaten by herons and egrets not DCCOs.

The DCCOs impact the snakes through the elimination of vegetation not by consuming the snakes. Information presented in the EA was based on consultation with staff from the USFWS Reynoldsburg Ecological Services Field Office regarding impacts of the proposed action on federally listed species. The *U.S. Fish and Wildlife Service Lake Erie Watersnake Management Guidelines for Construction, Development, and Land Management Activities* (EA Appendix H) states that shoreline vegetation is an important component of Lake Erie watersnake's summer habitat. Vegetation provides resting, basking, cover, and mating locations for the snake. Agency uncertainty regarding interactions between snakes and DCCOs is clearly stated in the EA Section 1.5.6.1.

22. Harassment is not acceptable because it would just move the problem to other areas.

The preferred alternative would allow for access to a full range of CDM methods to reduce damage by DCCOs to habitat. An integrated approach will allow us to select, evaluate, and refine the best method to address the problem. We plan to evaluate the effectiveness of harassment, in particular for fall migrating and staging DCCOs. We plan to assess harassment by radio-tracking a subset of the DCCO population, to ensure that DCCOs are not displaced to an area where other problems could occur. Problems with harassment moving DCCOs and DCCO problems is discussed in the response to Comments 13 and 64, and in the Chapter 4 analysis of impacts of Alternative 3 wherein

DCCOs may move to sites (WSINWR) where CDM is not conducted and in the FEIS (USFWS 2006).

23. Agencies should seek to use natural predation to control eggs and nestlings.

This method was not considered because predators that would feed on DCCO eggs would likely also adversely impact other co-nesting species directly by preying on eggs and young of co-nesting birds or indirectly by causing species like DCCOs which can use the ground or trees for nesting to quit using ground nests thereby increasing pressure on and competition for nesting sites in vegetation.

24. Opposes the preferred alternative on the basis of its expansiveness and lack of any stated clear, objective parameters which could be used to determine actions which might be taken in the future.

Population goals for black-crowned night-herons, great egrets, great blue herons, and DCCO were set during the CCP process for WSI. Double-crested cormorant population targets for WSI are based on the CCP goals, and the level at which rapid habitat damage to vegetation due to DCCO guano was observed. We will monitor habitat and bird populations on WSI, and take an adaptive approach to striking a balance between the co-nesting species on the island. The management objectives are defined in Section 1.5.6.3 of the EA. Any further action, other than what is outlined in the EA, would require a supplement to this EA.

25. It is not possible to determine when the proposed program would be considered successful or unsuccessful and terminated.

Double-crested cormorant removal to protect vegetation is a relatively new technique and little information is available. We set population targets based on the best scientific evidence we have to date. The ODNR and WSINWR will monitor vegetation, co-nesting birds, and DCCO densities on the islands to determine if DCCO removal is having the anticipated beneficial impact on co-nesting birds and vegetation. Indicators of success will be: (1) recovery of damaged vegetation, (2) stable or increasing populations of co-nesting waterbirds, and/or (3) expansion in the distribution of co-nesting species. Impacts of DCCO removal on woody vegetation, both positive and negative, take time to manifest, and it is possible that it may take years before impacts on vegetation are readily apparent. However, impacts of the CDM activities will be monitored and reported annually through annual monitoring reports for the EA and the annual reporting requirements required under the PRDO. The agencies will take an adaptive management approach to continually refine methods and goals as we gain a better understanding of the dynamics at work at the CDM sites. The EA would have to be supplemented before CDM activities that have greater impacts than those proposed in the EA could be conducted.

26. Double-crested cormorant effects on fishery resources are prominently featured in the EA as a driving issue, but are not a demonstrated issue with ODNR.

Many people have expressed concerns about the impact of DCCOs on fishery resources. The EA presents the current state of our knowledge on this issue in order to inform the public of the data available to the agencies on this issue and our reasons for not including protection of free-swimming fish as a factor driving current management objectives at this time. See response to Comment 1 above.

27. If the health of Lake Erie fisheries were to increase or decrease, how would the variance be coupled with any control treatments on DCCOs? And how would all the variables present in the lake affect any treatment?

ODNR will continue to monitor fish populations in Lake Erie and conduct research on DCCO impacts on fishery resources in the Lake Erie area. As discussed above it is possible that CDM actions taken to protect vegetation and co-nesting species may also have an incidental positive impact on fishery resources. Population monitoring efforts should be able to determine if this is the case. However, the EA would have to be supplemented if lethal CDM other than shooting to reinforce hazing were to be conducted for the protection of free-swimming fish populations.

28. Since much of the DCCO increase is the result of habitat conditions on their winter territory, how are the issues of DCCOs over-wintering in the Gulf States being addressed insofar as they apparently directly impact the Great Lakes breeding population? Reducing the breeding population locally may be fruitless because it fails to consider the numbers, range, and migration of North American DCCOs.

The management actions proposed in this EA are designed to address specific DCCO damage issues in Ohio. Large scale population management was considered in the FEIS (USFWS 2003) and was not selected as a management alternative. Therefore, region-wide population management is not an alternative available at this time. However, DCCO management is being conducted in the Gulf States under the Aquaculture Depredation Order and the PRDO. Such efforts will undoubtedly kill some birds that nest in Ohio, but it is not possible to quantify the number. Monitoring of DCCO populations and CDM efforts in all states where the PRDO and AQDO are in effect by the USFWS will ensure that the cumulative impact of these actions are not having an adverse impact on regional or national DCCO populations. Minimum DCCO population numbers have been set for WSI, TPI and the inland lakes to ensure the continued presence of DCCOs in the state.

29. Future actions by the control agencies must be determined by objective standards and measurable milestones not subjective or ad hoc determinations.

The management objectives established in the EA are based on the data available to the agencies on the specific sites where CDM is proposed and the best scientific evidence

available. Since the agencies are advocating a proactive approach, they are proposing to take action before damage becomes irreversible and/or slow and difficult to reverse (e.g., loss of trees). The agencies will use an adaptive management approach to continually refine methods and goals as we gain information from the monitoring of the results of the CDM program and review of newly published studies. The EA would have to be supplemented before CDM activities that would have greater impacts than those proposed in the EA could be conducted. The EA would also have to be supplemented before CDM activities could be conducted for the protection of fishery resources.

30. Alternative solutions to problem of increasing DCCO population should be sought in terms of habitat limitations and the potential establishment of alternative waterbird colony sites.

Typical nesting habitat for egrets and black-crowned night-herons is available on the mainland, but for some reason (possibly human intrusion or predators), these waterbirds have not utilized the mainland habitat.

31. Wants local control to be done with proper oversight and review on a case-by-case basis and should only be authorized after the best science is considered. Commenter does not endorse the senseless killing of birds so insists on applying the best remedy based on sound science.

The agencies are responsible for conserving and improving fish and wildlife resources for all citizens, so we also do not endorse the senseless killing of birds. We came to the conclusion that Alternative 1 is the best management option based on the best science available, and we will continue to make management decisions based on the best science available. All actions taken under the PRDO are monitored by the USFWS through requirements for reporting actions taken under the PRDO and through USFWS review and approval process required for any projects that propose to take more than 10% of a local population of breeding DCCOs. Agencies wishing to take more than 10% of a local DCCO population are required to inform the USFWS of the location of the proposed action(s), a description of the proposed control activity, specifying what public resources are being impacted, how many birds are likely to be taken and what approximate percentage they are of the total DCCOs present, which other bird species are present (from past data and supplemented with current data if new species are present). The USFWS has the option of disapproving the proposed action. The USFWS also requires post-project monitoring to evaluate the effects of control activities on DCCOs, nontarget species, and the public resources being protected. Additionally, decisions about DCCO control under the PRDO would be made on a case by case basis after consultation with the involved action agencies (USFWS, ODNR, and WS). These Federal and State entities have established an informal DCCO Coordination Group to exchange information on DCCO management and discuss sites where there may be a potential need to apply the DCCO PRDO in Ohio (Section 1.5.7).

32. Reducing the DCCO breeding population locally may be fruitless because it fails to consider the numbers, range, and migration of North American DCCOs. A local control program should be considered in light of the regional population and the fact that the same problem may occur annually.

See response to Comment 28. Other states and provinces adjacent to Ohio are controlling DCCO impacts in their locales, and the Ohio action agencies are coordinating with them. However, even if the other states/provinces do nothing, we have a responsibility to preserve the waterbird nesting habitat in our jurisdiction in Ohio, and that can be done most efficiently with Alternative 1.

33. All tree-nesting colonial waterbirds impact habitat of tree nesting species - problem is not solely attributable to DCCOs.

We agree that all tree-nesting colonial waterbirds do impact their nesting habitat, but DCCO impacts are more profound than the other species because of their greater densities. No major tree loss occurred on the islands (other than normal wind/ice damage) before DCCOs arrived; however, tree loss has been quite evident since the DCCO numbers have increased (during which time other waterbirds have decreased or stayed stable).

34. Wants data to indicate that habitat needed for other species on the Lake Erie islands is limited because of DCCOs - everything described in the EA is a potential scenario not an actual problem.

Middle Island, a Canadian Lake Erie island 20 miles east of WSI, and East Sister Island, also in Lake Erie, support some of the last remnants of Carolinian vegetation in Canada. A study on the impacts of increasing numbers of nesting DCCOs was published in the Journal of Wildlife Management by Hebert et al. in 2005 and is summarized in Section 1.5.1. The authors concluded, " These results suggest that cormorants are negatively impacting forests on islands in the western basin of Lake Erie. Cormorants appear to pose a threat to unique Lake Erie island plant communities and the habitats they provide for other wildlife species. If these islands are to be preserved, management of cormorant populations will be an important consideration. At a minimum, steps could be taken to ensure that cormorants do not start breeding in large numbers on islands that, to date, have not been colonized in significant numbers…..Such actions would prevent potential damage by cormorants to remaining island habitats."

The agencies do not want to let the documented destruction of vegetation by DCCOs on other Lake Erie islands to occur on Ohio's islands. Current data indicate that DCCOs are negatively impacting the islands' vegetation, and it's our responsibility to be proactive and prevent further loss to the vegetation. Our management actions may take several years before the vegetation responds to the reduction in DCCO numbers, and we believe that action is needed now, before the vegetation loss is irreversible.

35. The action on WSI is inappropriate because of the status of the site as a national wildlife refuge set aside for migratory birds and a Federal Wilderness area.

Addressed in section 2.2.3 of EA. Managing one species (DCCO) to protect other migratory bird species is not contrary to the establishing legislation for the refuge. We will not remove all DCCOs from the island, but rather will manage DCCO population numbers and distribution to minimize habitat degradation to protect other co-nesting species. Population goals for black-crowned night-herons, great egrets, great blue herons, and DCCO were set during the CCP process for WSI. We have a responsibility to manage the island to meet the population goals for all of the species that use the island. See Question 36 for response on wilderness issues.

36. One of the management principles identified by the Wilderness Society is to "allow natural processes to operate freely within wilderness areas." (description of processes as natural and not good or bad). Double-crested cormorants are a native species and managing DCCOs in a wilderness area directly violates this principle.

Addressed in section 2.2.3 of EA. WSI is a National Wildlife Refuge with a National Wilderness Area overlay. The Wilderness Act does not outlaw management in wilderness areas; it does set parameters for minimal tool use. We believe that this is the minimum tool needed to meet the CCP goals for the refuge. We also believe that failure to take action would violate the Non-Degradation Principle of the draft Wilderness Stewardship Policy Part 610 (Section 2.2.3, USFWS 2000*b*). This concept specifies that, at the time of wilderness designation, the conditions prevailing in an area establish a benchmark of that area's wilderness values, and that the USFWS will not allow these conditions to be degraded. (Draft policy, Section 1.4 (Q) USFWS 2000*b*). When WSINWR was designated, no cormorants were nesting on the island. We will maintain a population of DCCO on the island at a level that does not degrade the habitat to a condition that is of lower health and quality than the 1975 benchmark condition. In addition, the USFWS Wilderness Area Management Policy allows for the inclusion of wildlife damage management in wilderness areas (6 RM 8).

37. Regardless of human desires, species composition on islands changes. Land use changes originally favored black-crowned night-herons and other herons and egrets. Vegetation succession subsequently favored egrets, herons and DCCOs instead of black-crowned night-herons. Many species of wildlife alter the habitat they occupy and this is a natural process, enhancing carrying capacity for some species while reducing it for others. Double-crested cormorants play an important role as predators in ecosystems.

We agree that species composition, as well as population numbers and distribution, are in a constant state of change. During pre-settlement times, these processes were self-regulating. However, today because of the vastly altered landscape, management actions must sometimes be taken to keep species in balance with the available habitat, or to mitigate unacceptable damage to other species that are in decline due to loss of habitat. In Ohio, where there are large areas cleared for agriculture and the natural habitat is

highly fragmented, there are few alternative nesting locations for waterbird species that may be displaced by DCCO habitat destruction. We believe that failure to manage DCCO impacts will result in an increasingly adverse effect on the habitat and co-nesting bird populations on the islands. The proposed action does not involve eliminating DCCOs or the important role they play in ecosystems, but rather is intended to use an adaptive management approach which will allow for continued support of DCCOs and other colonial waterbirds and their habitats.

38. Double-crested cormorants potentially will impact rock elm, but removal of DCCOs from the entire island seems excessive. Wants study of DCCO impacts on vegetation and then a more refined management plan. Status of great blue herons and great egrets does not warrant DCCO control on Green Island.

Green Island is part of a habitat known as Carolinian Forest. Due to the scarcity of this habitat in Ohio and the small size of Green Island, the ODNR does not want any trees or vegetation lost due to DCCOs. There are already several dead trees on the island, and the DCCOs have only been nesting there for 2 years. The agencies are also concerned about the rapid increase in DCCO numbers at the island. Evidence from other Lake Erie islands indicates that allowing the current trend in DCCO use of Green Island to continue would have unacceptable impacts on vegetation (Hebert et al 2005). The agencies also hope that once the DCCOs are removed from the island, non-lethal tactics may be sufficient to keep them from nesting on Green Island. See also responses to comments 8, 10, and 21.

39. Grand-Lakes St. Mary's is a historic breeding site for DCCOs and to limit the DCCOs at this site because of potential conflicts with anglers shows no consideration of the North American Waterbird Conservation Plan - Recommends that this colony be maintained at least 100 pr of DCCOs. Population can be maintained at this level with nest removal.

Information on the history of colonial waterbirds in Ohio has been added to the EA in Section 1.5.6.1. Great blue herons have had a colony at Grand Lake St. Mary's for at least 20 years. The DCCOs recolonized the site in the late 1990s, and in recent years the DCCOs have encroached on the heron rookery and are displacing the herons. Therefore, we wish to reduce the DCCO colony to previous population levels at which there was no competition for nesting space between the two species. If this colony was allowed to increase to 100 nests and maintained at that level, the vegetation including trees, would be killed. The heron rookery would likely cease to exist, and it's unlikely the vegetation would ever recover because of the continued presence of the DCCOs which will nest on the ground. If the DCCOs did leave, it would be at least 20-30 years before the vegetation recovered to its present state.

Reduction of the DCCOs at St. Mary's has nothing to do with fisheries. The current state of our information on the impacts of DCCOs on fisheries is the reason that the proposed action does not include management objectives intended to protect fishery resources (See Comment 1). The North American Waterbird Conservation Plan stipulates that

management decisions be based on science and that any proposed management actions thoroughly analyze the impacts of the proposed action on target and non-target waterbirds. We believe the EA and the resulting management plan are consistent with the intentions of the North American Waterbird Conservation Plan.

40. Other than unjustified complaints there is no real problem with DCCOs at Portage Lakes - 6 pr is not biologically viable - recommend maintaining site at 100 pr. Population can be maintained at this level with nest removal.

The DCCOs are currently nesting on a wooded and vegetated island that is approximately 0.1 acre in size. The ODNR wants to maintain vegetation on the island, and although the DCCOs have already caused some damage, we feel that keeping the colony at 6 pairs will allow both DCCOs and vegetation to persist. If the colony increased to 100 pairs, the island would quickly become denuded.

41. Want a public education campaign to inform residents that the DCCO is a native bird with a long history in the state and is a component of natural ecosystems not a pest. Real problem is public fear about DCCOs.

The Division has a public education component as an objective in its DCCO management plan. Educational efforts are also included in the agencies' response to DCCO damage as discussed in Section 3.3.1. At no time do the agencies assert that DCCOs are not a native species. However, additional information on the history of DCCOs and other colonial waterbirds in Ohio has been added to the EA Sections 1.5.6 and 1.5.6.1. See also response to comment 14, EA appendix G.

42. Impacts on aquaculture, property and risks to aircraft impacts are minimal and can be dealt with on a case by case basis and do not justify a statewide control program with a 50% reduction in the DCCO population.

As stated in Sections 1.5.8 and 1.6 and the description of Alternative 5 which allows for continuation of ongoing programs, CDM activities have been conducted in the state prior to the completion of this EA. The anticipated level of take for these three types of damage will not change from the current level if Alternative 1 is selected (See description of alternatives in Chapter 3 and anticipated DCCO take in Section 4.1.1). The EA analyzes the environmental impacts of alternatives for managing all types of DCCO damage to provide a cumulative impacts analysis for all CDM in Ohio and to allow the agencies to review and reconsider alternatives for existing CDM programs. CDM activities are only conducted when a need for action has been confirmed and only at the location where the damage is occurring. As outlined in Section 1.5.6.3, management objectives which involve reducing the numbers of breeding DCCOs at local sites are based on the need to protect vegetation and wildlife.

Even though risks to aircraft and property damage may occur infrequently, they are a legitimate concern for the wildlife agencies and measures need to be taken to reduce the risk and damage. The civil and military aviation communities including the FAA

recognize that the threat to human health and safety from aircraft collisions with wildlife is increasing (Dolbeer 2000, MacKinnon et al. 2001). Airport operators must exercise "due diligence" in managing wildlife hazards including assessing wildlife hazards at the airport and, if needed, implementing a wildlife hazard management plan (FAA regulations in CFR 14 Part 139.337; Dolbeer 2004). As stated in the EA, because of the size and body characteristics of DCCOs (Section 1.5.5), the consequences of an aircraft striking a DCCO can be catastrophic. The goal of airport wildlife hazard management programs is to prevent serious accidents from happening. It is unrealistic and inappropriate to contend that airport hazard reduction practices should wait until after a serious accident has occurred.

45. Should consider limiting food or habitat. When food is reduced by other means, as happened with the recent collapse of alewife populations on Lake Huron, the incidence of DCCO nest success collapsed accordingly.

We would like to avoid the collapse of any fishery. When a fishery collapses, multiple species are impacted, not just the overabundant and/or introduced species. We cannot limit the available habitat without impacting other nesting species.

46. Agencies should seek to manage DCCO densities by reducing populations of non-native fish in Lake Erie. This would also solve some problems for native fish populations.

Other than chemical control for sea lamprey, there are no other proven methods for controlling non-native fishes in the Great lakes, certainly not to levels that would impact DCCOs. Additionally, DCCOs are opportunistic predators that do not differentiate between native and non-native fish. They take whatever species are most abundant and easy to catch. With the current DCCO population, even if the agencies were able to reduce non-native fish populations, the reductions could have the undesired impact of increasing DCCO foraging pressure on native fish.

47. It would be difficult to implement a large scale DCCO population control program using known methods. Weseloh and Collier (1995) state that sanctioned and unsanctioned control of the DCCO population only slowed its population growth and probably did not reduce it's size appreciably.

A large scale population control option was considered but was not the management alternative selected in the FEIS (USFWS 2003). Accordingly, this EA, which is tiered to the FEIS, does not propose implementing a large-scale population control program. The goal of the program is not to reduce overall DCCO population, but to reduce DCCO damage at specific sites through a combination of lethal and non-lethal means. In some areas, the goal is to maintain the density of breeding pairs at current levels. The agencies plan to monitor the ability of the program to meet its target objectives through nest counts and vegetation surveys.

48. The DCCO population can be expected to eventually outstrip its food supply, drop in numbers and eventually stabilize itself.

While this is true, the impacts that would occur to vegetation, local fish populations and co-nesting waterbird species before the DCCOs outstripped available food or habitat would be unacceptable. As discussed in the EA Section 1.5.6.3, historically, when colonial waterbird breeding colonies reached sufficient density that damage to the vegetation occurred and the site was no longer attractive to some species, the birds could move to new locations. Unfortunately, human population expansion and land use have limited the number of alternative sites available to colonial waterbirds and have placed sociological and biological constraints on the number of birds that can be supported at the remaining locations. The primary biological constraint is that many sites supporting colonial waterbirds must be managed to sustain a wide variety of plant and animal species indefinitely. This may make it necessary to manage bird populations at breeding sites at lower densities than were previously there to prevent habitat damage and loss that historically would not have been considered a problem.

49. Double-crested cormorant guano and other bird guano ultimately enriches the soil. Double-crested cormorant guano is a natural addition that will partly determine how the habitat will evolve. Other colonial birds have a similar but slower impact. This is a natural and acceptable process and should be presented to the public as such.

We agree that colonial waterbirds do impact their nesting habitat with their guano, but in some areas DCCO densities are such that impacts are more rapid and profound than those caused by the other species. No major tree loss occurred on the islands (other than normal wind/ice damage) before DCCOs arrived; however, tree loss is quite evident since the DCCO numbers have increased. However, as stated for Comment 47, because of human alterations in land use, many sites supporting colonial waterbirds must be managed to sustain a wide variety of plant and animal species indefinitely. In these areas, normal cycles of vegetation growth, waterbird use, and vegetation loss cannot be allowed to continue because they would adversely impact the limited amount of acceptable habitat available for some species.

50. Using shotguns will wound nontarget birds and disturb all species in the colony. Even when professional shooters were used at Presqu'ile, dead and dying birds were found in the lake, dangling from trees, leaving the site, dying in nests, etc. Level of suffering and injury is inhumane and unacceptable. It was very upsetting for the public to see the wounded birds flaying in the water.

Every effort will be made to kill the birds with one shot. In addition, the agencies will strive to retrieve and humanely dispatch wounded birds. We will use suppressed .22 rifles when the DCCOs are taken off of the nests. Every attempt will be made to cease killing of breeding adult DCCOs by the time of chick hatching so that young are not left to starve, die of exposure or be preyed upon at the nest. We will only use shotguns as a hazing technique in the fall for staging DCCOs when there are virtually no nontarget

species are present. Additional information on the impacts of the proposed action on nontarget species including co-nesting waterbirds is provided in EA Section 4.1.2.

51. The EA fails to adequately develop, define and consider reasonable alternatives to the proposed action.

The EA considers a full range of management alternatives including, an alternative in which the Federal agencies are not involved in DCCO management in Ohio, an alternative in which the Federal agencies would only permit or use non-lethal CDM methods and an alternative in which the Federal agencies would permit and use the full range of available CDM methods.

52. Great blue herons, gulls and Caspian terns are not threatened or endangered and do not need protection. Double-crested cormorants provide habitat for other colonial nesting birds such as Caspian and common terns.

Impacts on gulls and terns are not addressed as part of the specific need for action for the management objectives discussed in Section 1.5.3. They are discussed in a more general sense in the EA because DCCOs have impacted these species in other locations. Impacts on great blue herons are addressed in Comment 10 above.

53. Neither black-crowned night-herons or great egrets are truly in decline despite their listing in Ohio. These species are increasing overall in the Great Lakes Region despite the increasing DCCO population. Political boundaries are arbitrary and status of black-crowned night-herons and great egrets in Ohio is biologically meaningless given that the species are increasing overall, and this should not be used as justification for killing DCCOs.

Wires and Cuthbert (2001) identified WSI as the most important colonial waterbird colony site in the U.S. Great Lakes. The CCP for WSINWR set management goals for all species on the island, not just DCCO. The CCP is the document used to direct base management decisions at WSINWR. The draft Upper Miss/Great Lakes Waterbird Conservation Plan calls for a population goal of approximately 3,000 black-crowned night-herons pairs in Bird Conservation Region (BCR) 22, which includes WSI. WSI contains approximately a third of the estimated 1,565 black-crowned night-herons pairs currently in BCR 22. In addition, black-crowned night-herons are a Resource Conservation Priority Species list for Region 3 of the USFWS (USFWS 2002). Thus, there are a number of reasons for management for black-crowned night-herons on WSI. In establishing State endangered and/or sensitive species laws, State legislatures establish that retaining State-listed wildlife species within the boundary of the state is a priority for the citizens of that state. Actions to protect roosting colonies of black-crowned night-herons, and great egrets are consistent with the CCP for WSINWR, Resource Conservation Priorities Species list for the USFWS Region 3 and the spirit and intentions of the State endangered species act.

54. There should be areas of suitable habitat where DCCO should be allowed to exist and naturally breed without interference, but Ohio hasn't designated such an area. Are there sections of the Islands were DCCOs could be allowed to breed without interference

Double-crested cormorants have been allowed to breed undisturbed on WSI and TPI since they first arrived there, and the agencies plan on continuing to allow that to happen on portions of TPI and WSI. Approximately one half of the DCCOs will not be disturbed at all on WSI. We plan to focus our removal efforts on locations where the DCCOs are infringing upon egret and heron nesting areas. A significant portion of the island will be left undisturbed by control activities, and the DCCOs can breed there without interference. WSINWR will maintain at least 1,500 nesting pairs of DCCOs on the island. The management objective for TPI is to maintain 400 nesting pairs of DCCOs on the island and to only remove those individuals that are posing the most imminent threat to night-heron nesting habitat. At most, the EA proposes removing 10% of the breeding pairs on the island which should result in relatively minimal disturbance. Only at Green Island will the DCCOs be totally removed from the island, and the reasons for that decision are presented in the response to Comment 38.

55. Exponential growth does not occur in nature and use of the term is fear mongering.

The only time exponential growth is mentioned in the EA is for Green Island, and we believe that going from 0 nests to 15 to 857 nests over the period of 2003 to 2005 is accurately described by exponential growth.

56. If artificial methods are to be used to protect plants use horticulture. There are countless areas in Ohio where rock elms can grow in total absence of DCCOs or any other bird capable of producing significant guano.

We wish to preserve the rock elm and other endangered species in their current locations. Endangered species are often scarce because they are indicators of the health of an ecosystem. If the endangered species is being threatened, steps should be taken to remove the threat to the species instead of simply moving the species.

57. Analysis of impacts on non-target species is inadequate. You cannot remove one species without serious disruption to co-nesting species. Causing birds to "temporarily leave" could clearly result in nest abandonment by federally listed species and other sensitive and declining species. Final EA must provide academic peer-reviewed scientific evidence that implementation of the PRDO will not jeopardize regional or local populations of nontarget birds or other nontarget species.

This issue has been evaluated in Section 4.1.2 of the EA and in the FEIS (USFWS 2003). Specific measures to reduce potential adverse impacts to colonial waterbirds are provided in Section 3.4. Moore et al. (2005) evaluated the impact of DCCO removal on co-nesting

great blue herons and great egrets on Lake Ontario. For both species, there was no impact on the proportion of time spent in nest attendance between control and treatment sites for the interval prior to DCCO removal, the intervals between DCCO removal efforts and the period after DCCO removal was completed. Nest attendance declined for both species during the DCCO removal periods (35±20 min). Herons disturbed during the DCCO removal returned to the nest in 11 - 14 min (longest unattended=50±30 min) and all egrets returned to nests before the DCCO removal had ended (longest unattended=6±4 min). There was no difference in the nest success of herons or egrets between treated and untreated sites so the temporary departures by adults did not appear to adversely impact nontarget species. As with the pilot projects reported in the EA, observers will monitor the impact of the CDM activities on co-nesting birds. In the unlikely event that CDM activities would have impacts greater than those anticipated in the EA, CDM activities would be discontinued or modified to address the problem. The agencies will monitor the number and locations of co-nesting birds in the areas where CDM is conducted. This monitoring is also required as part of the monitoring and review requirements established for the PRDO. Results of this monitoring activity will be reviewed annually and management activities will be adjusted accordingly. If necessary, the EA will be supplemented and made available for public review and comment if based on the new information, impacts of the action are anticipated to exceed those predicted and analyzed in the EA.

The USFWS has conducted an Intra-Service Section 7 Biological Evaluation to assess the impacts of the proposed action on federally-listed species and has determined that the proposed action will have no effect on the Indiana bat, Karner blue butterfly, Lakeside daisy, Northern monkshood, or Eastern prairie fringed orchid. Given the provisions detailed in the PRDO regulations (50 CFR 21.48 (d)(8)), in the EA, and in the Intra-Service Section 7 Biological Evaluation the proposed action is not likely to adversely affect the piping plover, bald eagle, or Lake Erie watersnake. The lead and cooperating agencies will abide by measures in the PRDO regulations (50 CFR 21.48 (d)(8)), the EA and the Intra-Service Section 7 Biological Evaluation for Ohio to avoid risks to federally listed species. USFWS guidelines for the protection of the Lake Erie watersnake have been added to the EA in Appendix H.

58. The EA violates the language and spirit of the MBTA because the Act requires that only birds that are causing or about to cause significant damage may be killed. The proposed action does not put any parameters or restrictions on the locations ore circumstances under which DCCOs may be killed. The killing of DCCOs would be indiscriminate and would not target the offending DCCOs.

This issue was addressed in the FEIS and in the Final rule and decisions for the FEIS. The PRDO states that DCCOs may only be taken in circumstances where there is evidence that they are currently causing damage to public resources or where there is a reasonable expectation of damage. All actions to be taken under the PRDO are subject to reporting and review requirements of the USFWS. Decisions about DCCO control under the PRDO would be made on a case by case basis after consultation with the involved action agencies (USFWS, ODNR, and WS). Additionally, the EA in Section 1.5.7

establishes a DCCO Coordination Group to exchange information on DCCO management and discuss sites where there may be a potential need to apply the DCCO PRDO in Ohio. The lead and cooperating agencies have agreed that decisions on future PRDO CDM projects will be made only after consulting with the DCCO coordination group. As described in the EA, lethal CDM would be conducted at the sites where DCCOs are causing damage or where increases in DCCO densities beyond current levels can be reasonably expected to result in damage.

59. Disease transmission is not a justification for killing DCCOs.

We agree. Disease transmission was not presented as a justification for killing DCCOs but was presented in Section 2.1.1 as a factor which may affect DCCO populations.

60. Aquaculture and property damage is not justification for use of lethal control. People who create artificial feeding opportunities for DCCOs should be required to use non-lethal CDM methods. All aquaculture and property damage can be solved with non-lethal methods. Commenters provided information on information and experts we could use. Commenters encourage agencies to abandon implementation of the expanded AQDO.

Under the preferred alternative, non-lethal methods will be recommended to persons requesting assistance when determined practical and effective for the given situation. We agree that physical exclusion can, under the right circumstances, be an extremely effective CDM method. However, the efficacy of methods like frightening devices, even when properly applied, is usually limited by the ability of birds to become accustomed to a frightening stimulus if it is not occasionally reinforced by a real threat (such as a dead bird) and some methods like physical exclusion may not be appropriate for all sites. A survey of Minnesota aquaculture producers (Wires and Cuthbert 2003) reported that 67% of the producers said they spent 10% or more of their annual earnings to combat fish-eating birds. Ninety-six percent (96%) of respondents reported that mechanical or physical alterations in their facilities to reduce damage were not physically feasible or cost effective.

The agencies thank the commenters for their recommendations of non-lethal techniques for aquaculture facilities and means to reduce risks to nontarget species at aquaculture facilities. The agencies stay current on methods to reduce risks to nontarget species through attendance at professional meetings, review of the literature and participation in relevant studies. See also Appendix 4 of FEIS regarding use of exclusion at aquaculture facilities (USFWS 2003).

Ohio is not one of the states included in the Aquaculture Depredation Order (USFWS 2003).

61. Coordinated efforts to harass DCCOs like that used in Mississippi should be used to address aquaculture problems in Ohio.

Double-crested cormorants tend to forage in areas in relatively close proximity to roost sites (Glahn and King 2004). The coordinated harassment efforts used in Mississippi are designed to get DCCOs to move roost locations from areas where the aquaculture facilities are concentrated to areas of the state along the Mississippi River where there are lower concentrations of aquaculture facilities (Glahn and King 2004). The applicability of this technique to DCCO problems in Ohio will depend on the source of the DCCOs causing damage. If the DCCOs causing the damage are coming from nesting areas, then this method may not be applicable because it would entail harassing DCCOs until they left the site. This level of harassment would have unacceptable impacts on co-nesting species. Additionally, with the exception of Green Island, the agencies do not want to eliminate DCCOs from the breeding colonies, just reduce their density. If however, the damage is caused by non-breeding individuals roosting in locations without nontarget species that would be adversely impacted by the harassment effort, then this may be a viable option.

63. The EA sets no limits on the number of DCCOs that may be taken annually. In combination with CDM activities in other states, activities in Ohio may contribute to regional population declines. Analysis of cumulative impacts on the DCCO population is inadequate.

The EA provides an estimate of the maximum cumulative number of DCCOs that could be taken under CDM in Ohio. The EA concluded that the impact of this take under any of the alternatives would not jeopardize the long-term sustainability of DCCO populations at a state, regional, or national level. Double-crested cormorant management will be coordinated among WS, the USFWS and ODNR to ensure that State and regional take does not exceed levels that can be sustained by the DCCO population. Cumulative impact of CDM activities on the regional and national DCCO population is also addressed in the FEIS (USFWS 2003). As specified in 50 CFR 21.48, on an annual basis the agencies will report all take of DCCOs and eggs to the USFWS to ensure that the cumulative impacts of CDM actions in Ohio and the other PRDO States are not adversely affecting the long-term sustainability of DCCOs in Ohio the region or nationwide. Furthermore, as described in Section 1.8, the agencies will, on an annual basis, review this EA to ensure the analysis provided (including impacts to DCCO populations) in the EA is sufficient.

64. Lethal and/or non-lethal techniques will only move the DCCOs and their problems.

Some commenters expressed concern that the non-lethal frightening and habitat alteration techniques and the frightening affect that shooting would have on other DCCOs would spread the DCCO problem to other areas. The lead and cooperating agencies are aware that use of these techniques will cause the DCCOs to move to other areas in Ohio or in adjoining states. This eventuality is part of the reason that management objectives that

involve maintaining current DCCO densities have been established for TPI (See also Comment 13). It is unlikely that all the DCCOs will relocate to one site. Nevertheless, the agencies recognize that once CDM measures are undertaken it will be important to monitor changes in the distribution and abundance of DCCOs throughout the state. The ODNR and WSINWR anticipate that they will radio mark 15 cormorants with radio transmitters. These radios will allow biologists to track the birds after they have been hazed from their roosts on Green or West Sister Islands, thus helping the agencies evaluate the effectiveness of non-lethal control. Radio-marked birds will also be monitored during lethal control to determine if the birds move to other areas in response to lethal control.

65. Lethal management of DCCO damage is ineffective at alleviating DCCO damage because it may have to be repeated.

The ability of DCCO populations to sustain the proposed level of DCCO removal and to eventually return to treatment sites does not mean individual bird damage management actions are not successful in reducing damage, only that periodic bird damage management actions are necessary in many damage situations. This is true for most non-lethal damage management techniques as well as lethal damage management techniques. To say that a technique is ineffective because it must be repeated if new birds colonize the site is analogous to saying that lawn mowing is ineffective in making the grass short because it must be repeated.

66. The EA needs to provide greater detail on how the impacts and efficacy of program actions will be monitored.

Section 1.8 of the EA notes that the impacts of CDM activities will be monitored annually. Actions taken under the PRDO will also be reviewed by the Ohio DCCO Coordination Group. This review will include an analysis of the number of DCCOs taken and all available reports and data on impacts to nontarget species, population status for DCCOs and nontarget species, and efficacy and impacts of new or existing CDM methods. When actions are taken under the authority of the PRDO, the agencies are required, on an annual basis, to provide the USFWS with a description of the impacts or anticipated impacts to public resources by DCCOs and a statement of the management objectives for the area in question; a description of the evidence supporting the conclusion that DCCOs are causing or will cause impacts to a public resource; and a discussion of other limiting factors affecting the resource (50 CFR 21.48(d)(10). The PRDO also requires that agencies notify the USFWS and get USFWS approval if they intend to take more than 10% of a local DCCO population.

67. The use of DCCO removal to reduce damage at aquaculture facilities by reducing DCCO density is doomed to failure.

Lethal control is not authorized at aquaculture facilities for the purpose of reducing local DCCO populations. It is intended for the removal of specific depredating individuals at the site. For example, in some cases, management activities at the facility requires that

openings be left for people and/or equipment to function under bird exclusion systems. At times, individual birds may learn to use these openings. Removal of these birds eliminates the damage problem and reduces the likelihood that other individuals may learn the technique. In situations where frightening devices are used, lethal removal of individuals that have learned to ignore the devices eliminates the depredating individual and may prevent other birds from becoming accustomed to the device by reinforcing the perception that there is a real threat associated with the frightening stimulus.

68. The EA is arbitrary, capricious and inadequate. We support a full EIS where the public receives full notice to comment on the proposal to kill DCCO.

The EA provides a thorough analysis of the need for action and the impacts associated with the various alternatives. Each issue is fully explained and analyzed against each alternative to allow the reader an objective way to evaluate potential outcomes of each alternative. By conducting such a systematic and objective analysis, and using the best available scientific information, data and expert advice, WS, the USFWS and the ODNR are able to make an informed decision as required by NEPA. The EA was made available for the public to review in accordance with the requirements for public notification and public comment periods of the USFWS and WS. The agencies followed all applicable laws, regulations, and guidelines in analyzing potential impacts of their actions. In making an informed decision of potential environmental impacts, the agencies used the best available scientific information, data and expert advice, including the DCCO FEIS (USFWS 2003). The Finding and Decision for this EA, based on the analysis and responses to public comments, has determined that the proposed action will not have a significant impact on the human environment in Ohio and that an EIS need not be prepared for CDM in the State. Additionally, this EA is tiered to the DCCO FEIS (USFWS 2003) which also evaluated impacts of CDM including the PRDO and an expanded AQDO.

69. The EA indicates Ohio WS plans to compost shot birds on island habitats. At Presqu'ile Provincial Park (PPP) the Ontario Ministry of the Environment Determined, after testing, that the birds were so contaminated by mercury that all the bodies had to be removed from the island compost site and taken to a hazardous waste site for disposal. If Ohio WS shoots birds, this likely possibility for disposal needs to be taken into consideration.

The agencies have contacted the Ontario Ministry of Parks regarding the DCCO composting situation at Presqu'ile (S. Grigg, pers. comm.). The Park's plan involved composting DCCOs at the site and then using the compost in site management activities in other locations at the Park. Under Provincial regulations, the Park was required to obtain a waste disposal permit in order to compost DCCOs. The permit limited the total amount of material that could be held at the composting site and also required that the compost be tested for the presence of several compounds, including mercury, prior to using the material at other locations in the Park. The compost was tested in each of the two years that DCCO removal and composting was conducted. The mercury levels of 2.29 and 3.36 micrograms/gram dry weight observed in the compost were over the

amount permitted in order to distribute compost, but were not so high that the material had to be removed from the site. The Park could have left the material in the compost site. However, if the material was left on site, the Park was concerned that they would exceed their limit for the amount of material that could be held at the compost site and chose to have the compost removed. The material was taken to a conventional landfill in accordance with all applicable regulations, not a hazardous waste disposal site as stated by the commenter.

As stated in Section 3.2.3.3, the Ohio Environmental Protection Agency (EPA) determined that the proposed composting facilities are more like a farm animal composting operation than a solid waste disposal facility regulated by the Ohio EPA. Farm animal composting in Ohio falls under the regulation of the Ohio Department of Natural Resources, Division of Soil and Water (ODSW). The Ohio compost sites would not be subject to Canadian regulations regarding the amount of material at the site. The compost will remain at the sites and will not be distributed, so the agencies are not required to test the compost for the presence of mercury. Nonetheless, the agencies share the public's concern about mercury in the environment and will test the mercury content of the compost and the soil below the compost site at least every other year and more frequently if needed. Based on data from composting at Presqui'ile, we anticipate that one year's accumulation of DCCO compost at the Ohio sites will be well below the regulatory mercury limit set by Ohio EPA (0.2 mg/L determined by the Toxicity Characteristic Leeching Procedure - Ohio Administrative Code 3745-51-24). The first test will allow the agencies to monitor the consequences of using the same compost site over a period of two years. Results from the test will also be used to determine if future testing needs to occur more frequently than every other year and to determine if the agencies need to change or modify carcass disposal procedures. If needed, the agencies will amend this analysis to address changes in environmental impacts and carcass disposal procedures in accordance with NEPA. If an amendment is needed, the public would have the opportunity to review and comment on the new data and proposed procedures. Additional data on composting has been added to EA Section 4.1.6.

70. EA should not use Presqu'ile Provincial Park as an example of a situation where individuals have chosen to protect vegetation because the Provincial Ministry of the Environment acknowledged that DCCO activities at the park's High Bluff and Gull Islands are natural processes, that DCCOs contribute to biodiversity and that population control measures will cause damage to other nesting colonial waterbirds, thus, negating any rationale of the Ontario Ministry of Natural Resources to kill DCCOs.

In the report presented by the Presqu'ile Double-crested Cormorant Management Scientific Review Committee (PDCMSRC 2004), it states that the goal for High Bluff Island was "to protect representative woodland flora and fauna and the aesthetic beauty of High Bluff Island while retaining maximum diversity of nesting colonial bird species" and further, that the activity of DCCOs had been identified as resulting in the loss of and damage to woodland vegetation on the two islands within the park. This was determined

to be significant and worthy of action because the habitat found in the area used by DCCOs had value to a variety of species including tree-nesting waterbirds.

The scenario a Presqu'ile is not unlike the one identified in the EA for several sites in Ohio. The EA in Section 1.5.3 acknowledges that the loss in vegetation associated with high DCCO densities is a natural process. However, because of limitations of and expectations and management objectives for the sites where the damage is occurring these processes cannot be permitted to continue unchecked. The agencies with management responsibility for the sites were involved in the EA and have concurred that CDM actions proposed for the protection of vegetation and wildlife at these sites is warranted. Furthermore, the proposed action does not propose to eliminate DCCOs from Ohio and will not jeopardize State, regional or national DCCO population and will not have an adverse impact on biodiversity. Impacts of the proposed action on non-target species are addressed in Section 4.1.2 and discussed in Comment 57.